

In the Drawings:

Please add Figure 3 (attached hereto) to the drawings.

REMARKS

The Office Action dated October 18, 2005 has been reviewed. In response thereto, Applicant has amended claims 46 and 50 in an effort to clarify the inventive concept recited therein. In view of the amendments to claims 46 and 50, and the following remarks it is believed that the patent application is now in condition for allowance.

AMENDMENTS TO THE DRAWINGS

The drawings were objected to under 37 CFR 1.83(a) because they "failed to show blind via in the insulating substrate" as described in the specification. A drawing (FIG. 3) has been added to show a blind via in an insulating substrate.

CLAIM REJECTIONS 35 USC § 112

Claim 50 was rejected under 35 USC § 112, second paragraph, as being indefinite. The phrase "having one or more strata and," has been taken out of the preamble. Also, the phrase "a blind via extending through at least one of said strata, said via having a sidewall" has been removed and replaced with "a substrate having at least first and second generally parallel surfaces and a blind via extending from the first surface, the blind via having a sidewall." The Applicant has amended claim 50 to show the above changes and respectfully requests reconsideration and withdrawal of the rejection of claim 50.

CLAIM REJECTIONS 35 USC §102

Claims 50-52 were rejected under 35 USC §102(b) as being anticipated by United States patent number 5,277,787. Claim 50 has been amended to overcome the

rejection in view of US patent number 5,277,787. That is, claim 50 has been amended to more specifically define the limitation of a "blind via". United States patent number 5,277,787 does not teach a "blind via" as recited in claim 50. That is, as recited in Col. 3 of United States patent number 5,277,787, such patent teaches "an inner via hole", rather than a "blind via." An "inner via hole" is also known as a "buried via", which is described in Exhibit A of applicants' first response.

In light of the foregoing, Applicants respectfully request reconsideration and withdrawal of the rejection of claims 50-52 in view of United States patent number 5,277,787.

CLAIM REJECTIONS 35 USC §103(a)

Claims 46-49 were rejected under 35 USC §103 (a) as being anticipated by the combination of United States patent number 5,243,142 in view of United States patent number 4,383,363. The rejection of claims 46-49 is respectfully traversed on the basis that the combination of United States patent number 5,243,142 in view of United States patent number 4,383,363 does not teach or suggest a double-sided printed wiring board comprising an insulator substrate having at least first and second generally parallel surfaces and a blind via extending from the first surface, and with a cured a mass of a flowable conductive material filling said blind via.

That is, United States patent number 5,243,142 teaches a printed wiring board obtained by filling a non-electroconductive resin containing a metal powder in an inner wall metalallized through holes of double-sided copper-clad insulating substrates. United States patent number 4,383,363 teaches an insulator substrate that disposes

conductive paste in a through hole. However, the through holes referred to in United States patent numbers 5,243,142 and 4,383,363 are not believed to teach or suggest "a blind via" as referred to in claim 46.

In further support of Applicants' position, the Applicants' attorney respectfully directs the Examiner's attention to Exhibit A, entitled "Buried/Blind Vias," attached in applicants prior response. As discussed in Exhibit A, it is Applicants' belief that a blind via is the via having connection to the surface of a printed circuit board, but not going through all the layers. In addition, the blind via usually connects the surface to a specific internal layer and is typically formed by depth control drilling. United states patent numbers 5,243,142 and 4,383,363, on the other hand, consistently illustrate and describe through holes, which would correspond to the description of the normal via set forth in Exhibit A.

In view thereof, Applicants respectfully request reconsideration and withdrawal of the rejection of claims 46-49 as being anticipated by United States patent number 5,243,142 in view of United States patent number 4,383,363.

Claims 53-60 were rejected under 35 USC §103(a) as being unpatentable over Watanabe et al. (US 5,319,159) in view of Hayakawa et al. (US 4,383,363). The rejection of claims 53-60 under 35 USC §103(a) is respectfully traversed. As the Examiner is aware, to establish a prima facie case of obviousness requires the combination of references to teach each and every element recited in the claims.

Claims 53-60 recite:

a substrate having at least first and second generally parallel surfaces and a blind via extending from the first surface, the blind via having a sidewall;

a first conductive layer extending over substantially all of the first surface;
a conductive material positioned within the blind via, the conductive material
plugging the blind via such that the blind via has no opening extending
from the first surface; and

The combination of Watanabe et al. (US 5,319,159) in view of Hayakawa et al. (US 4,383,363) does not teach a substrate having a blind via and with a conductive material positioned within the blind via. That is Watanabe et al. (US 5,319,159) and Hayakawa et al. (US 4,383,363) consistently teach through holes, rather than a blind via as recited in claims 53-60. In view thereof, it is believed that a prima facie case of obviousness has not been presented. Reconsideration and withdrawal of the rejection of claims 53-60 is respectfully requested.

DOUBLE PATENTING

Claims 50-60 were rejected under the judicially created doctrine of obviousness - type double patenting in view of claims 1, and 5-18 of U.S. Patent No. 6,303,881. Submitted herewith is a corrected terminal disclaimer to overcome the rejection under the judicially created doctrine of obviousness-type double patenting. Reconsideration and withdrawal of the rejection under the judicially created doctrine of obviousness-type double patenting is respectfully requested.

SUMMARY

The foregoing is intended to be a complete response to the Office Action dated October 18, 2005. Reconsideration and withdrawal of the rejections is respectfully requested. Should the Examiner have any questions or comments regarding the foregoing, Applicants' attorney would welcome a telephonic interview with the Examiner.

Respectfully submitted,

Marc Brockhaus

Marc A. Brockhaus, Reg. No. 40,923
Customer No. 30589
DUNLAP, CODDING & ROGERS, P.C.
P.O. Box 16370
Oklahoma City, Oklahoma 73113
(405) 607-8600 - telephone
(405) 607-8686 - telefax

Attorney for Applicant(s)